

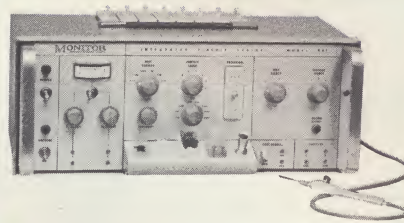


MONITOR

SYSTEMS INC.

INTEGRATED CIRCUIT TESTER

MODEL 851



The unique MONITOR Model 851 Integrated Circuit Tester was created especially to meet the demands of integrated circuit users for a low-priced, easy-to-operate dynamic testing instrument for incoming inspection and engineering laboratory applications.

Light-weight, portable, and human-factors engineered for simple operation, the Model 851 performs as many as nine independent dynamic and static tests on all commonly used integrated circuit types, including flatpacks, TO cans, dual-in-line configurations, and a number of

transitional forms. Typically, less than 15 seconds per unit is required for the complete functional testing of DTL, RTL, TTL, ECL, and a variety of linear circuits.

The MONITOR Model 851 Integrated Circuit Tester is completely self-contained, with all necessary pulses, logic levels, and voltages built in. A valuable added feature is a vacuum handling tool which facilitates rapid, fool-proof lifting and positioning of microminiature IC flatpacks for the testing operation.

DESIGN FEATURES

- DYNAMIC TESTING
- SELECTABLE PULSE RATES
- ADJUSTABLE PULSE LEVELS
- SELECTABLE CIRCUIT LOADS
- ADJUSTABLE TEST VOLTAGES
- AUTOMATIC DIODE SHORT DETECTION
- PROGRAMMED TESTING
- RAPIDLY CHANGED TEST PROGRAMS
- PORTABLE CONSTRUCTION
- EASY-TO-OPERATE VACUUM PICK-UP



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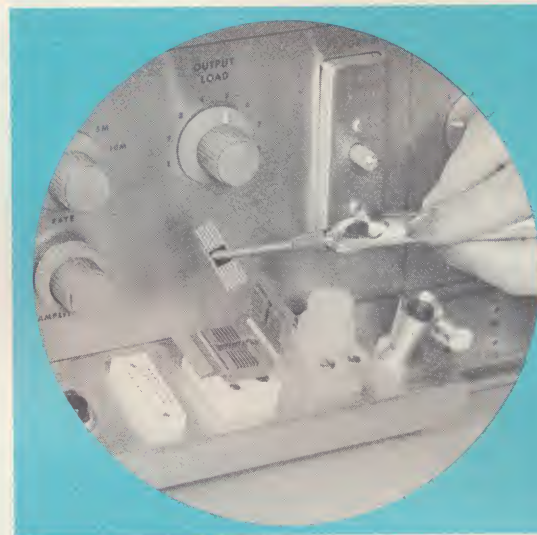
INTEGRATED

FUNCTIONAL DESCRIPTION

The MONITOR Model 851 Integrated Circuit Tester is organized into nine functional parts:

I. Power—Two DC voltages generated within the instrument may be used as test voltages for the integrated circuit device under test. These voltages are independently variable from 0 volts to 15 volts. The supplies are floating, may be either negative or positive with respect to ground, and will not be damaged if short circuited to ground. The amplitude of each supply is continuously adjustable over its full range. Once the voltage is adjusted, the potentiometer can be locked to prevent accidental misadjustment. A front panel meter monitors the supply voltages. If a more precise voltage setting is desired, convenient front panel test points are provided for external monitoring. The stability of these supplies exceeds 0.5 percent. Separate supplies within the tester are used to power all logic circuits required for the internal operation of the Model 851.

II. Oscillator and Driver—An emitter-coupled oscillator and associated line driver, mounted on a plug-in printed circuit card, provide the pulses necessary for dynamic testing of the integrated circuits. Five pulse rates can be selected, the highest being 5 million pulses per



second. Pulse amplitude may be adjusted from 2 volts to 6 volts. Once the amplitude is adjusted, it can be locked to prevent accidental misadjustment. The pulse output is externally monitored through front panel test points. Other pulse rates and amplitudes can be applied to the integrated circuit under test.

III. Diode Short Test—The Model 851 automatically tests diode AND gates and diode NAND gates for shorts. The shorted diode will be detected during the normal dynamic testing of the gates. Malfunctions are indicated through a front panel light.

IV. Test Switch—Nine independent tests can be selected via the program connector. All power, logic levels, and clocks are routed to the appropriate pin of the test socket.

V. Output Select—Six different outputs can be selected for monitoring the output of the integrated circuit under test. Readout is by means of an external oscilloscope or meter.

VI. Load Select—Two independent 8-position switches are used to select the desired loading for the circuit under test. One switch selects one of seven resistor values. The other switch se-



CIRCUIT TESTER MODEL 851

lects one of seven capacitor values. The remaining position on each switch is reserved for special loads required by the user. These loads may be mounted on binding posts conveniently positioned on the front panel. The resistor loads are connected to the test voltage by means of the program. The capacitor loads are returned to ground.

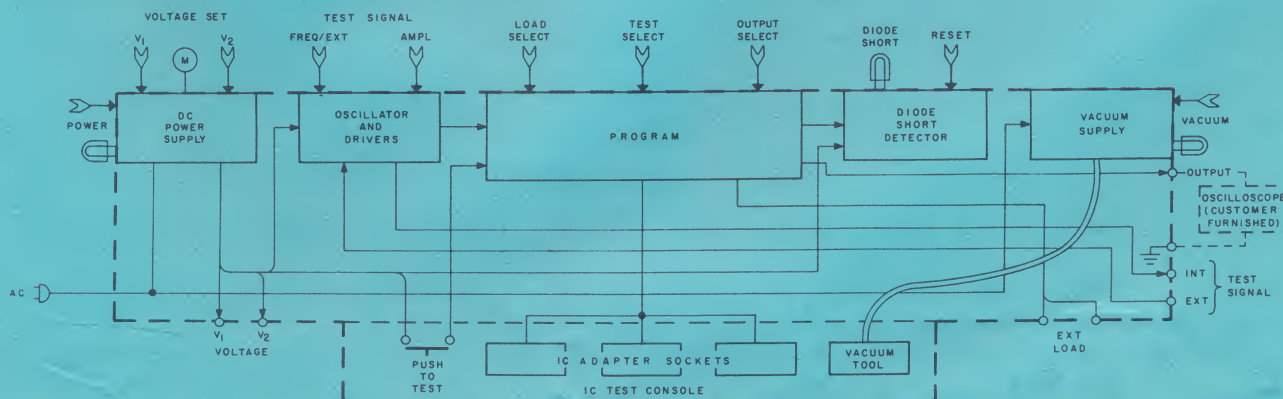
VII. IC Test Console—The IC Test Console, an integral part of the front panel assembly, contains three basic receptacles for the integrated circuits under test. By means of easily inserted adaptor sockets, the three basic receptacles of the Model 851 will readily accept: (1) all commonly used flatpacks with up to 14 pins, (2) all commonly used TO type cans with up to 12 pins, (3) all commonly used dual-in-line types with up to 14 pins. A push-to-test control connects power to the integrated circuit under test.

VIII. Vacuum Pick—A vacuum pick and holder are integrally mounted on the IC Test Console. A vacuum pump within the tester is energized when a front panel switch is actuated and the pick is removed from its holder. The vacuum pick, controlled by the operator, lifts flatpack devices and positions them on the console for testing. The vacuum's holding action may be terminated by means of a push-button. When the pick is returned to its holder, the vacuum pump automatically shuts off.



IX. Program—The program interconnects the various functional entities of the Model 851. Each plug-in program is prewired in accordance with the type of integrated circuit to be tested, and the different tests desired. Each integrated circuit type is accommodated by an individual program. Once the program is finalized, testing is routine, rapid, and precise. Usually less than 15 seconds is required for the complete functional testing of an IC element. When a different type of integrated circuit is to be tested, the proper prewired program is positioned in the receptacle, and testing proceeds routinely. The speed and simplicity with which programs are changed assures rapid, precise testing of a wide variety of integrated circuit types, including a large number of transitional forms.

The overall organization of the Monitor Model 851 Integrated Circuit Tester is shown in the following block diagram:



INTEGRATED CIRCUIT TESTER MODEL 851

SPECIFICATIONS

Configuration	Bench top
Physical Description	7" high, 17 ¹ / ₄ " wide, 11 ³ / ₄ " deep 27 lbs. in weight
Power	Single phase 47 to 63 HZ. 105-125 volts @ 2.5 Amp. 210-250 volts @ 1.25 Amp. (optional)
Test Voltage Supplies	0 to 15 volts at 30ma—floating 0 to 15 volts at 50ma—floating
Internal Signal	Square wave, Rate 5M pps, 1M pps, 100K pps, 10K pps, 1K pps Amplitude adjustable +2 volts to +6 volts
External Signal	BNC input, DC coupled
Internal Loads	
Resistive	100 ohms, 300 ohms, 510 ohms, 750 ohms, 1K ohms, 2K ohms, 10K ohms
Capacitive	100pf, 150pf, 220pf, 330pf, 680pf, 1000 pf, 2000 pf
External Loads	Binding post provided for paralleling external loads
Program Input	Removable connector patched in accordance with type of integrated circuit to be tested
Short Circuit Detection.....	Automatic detection of input diode shorts, with manual reset
Test Receptacles	Up to 14-pin flatpack Up to 12-pin TO type cans Up to 14-pin dual-in-line
Program	56-pin connector

FRONT PANEL CONTROLS AND INDICATORS

Test	9-position selector switch
Output	6-position selector switch
Test Signal	Rate: 6-position selector switch Amplitude: potentiometer control
Output Load	Resistive: 8-position selector switch Capacitive: 8-position selector switch
Voltage Adjusts	potentiometer for each adjustable supply
Test Voltage Monitor	0-15 volt D.C. meter
Power Switch and Indicator	Vacuum Switch and Indicator
Diode Short and Reset	Push-To-Test Switch



PRINTED IN U.S.A.

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FORT WASHINGTON, PENNSYLVANIA

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July 29, 1966

PRICE LIST

Model 851	Integrated Circuit Tester (without Adaptor Sockets and Program Plug-ins)	\$ 1,920.00
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Part No.

851-XXXX	Standard Program Plug-in with associated test procedures	50.00
851-11	Blank Program Plug-in with fifty contact daisy chain (Contact factory or representative for types available)	30.00
851-XXXXS	Special Program Plug-ins typically (quote on request)	75.00
851-02	Jumper Wire set for Program plug-in, (50 contact daisy chain)	12.00
851-04	Extraction Tool	5.00
851-05	Insertion Tool	5.00
851-20	TO Type Adaptor Socket 6-pin	6.00
851-21	" " " " 8-pin	6.00
851-22	" " " " 10-pin	7.00
851-23	" " " " 12-pin	7.00
851-24	Flat Pack Adaptor Socket 1/8" x 1/4" packs	12.00
851-25	" " " " 1/4" x 1/4" and 1/4" x 3/8"	12.00
851-26	" " " " 3/16" x 1/4"	12.00
851-27	Remote, Adaptor with 14 external lead wires	45.00
851-28	Mech-Pack Carrier Adaptor	50.00
851-29	Dual-In-Line Adaptor Socket	35.00

Terms: Net thirty (30) days, F.O.B. Fort Washington, Pa.
Minimum Order: \$50.00.

Prices listed do not include any applicable
Federal, State, or Local taxes and are
subject to change without notice.